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## Yields of the Field Experiments 1980

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### 80/R/B/9 Spring Barley Controlled Drop Application of Tridemorph

#### Rothamsted Research

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80/R/B/9

SPRING BARLEY

CONTROLLED DROP APPLICATION OF TRIDEMORPH

Object: To compare controlled drop application with conventional spraying on the deposition of spray material, control of mildew and on the yield of s. barley - Gt. Harpenden II.

Sponsors: F.T. Phillips, P. Etheridge, A.J. Arnold, B. Pye.

Design: 3 randomised blocks of 11 plots.

Whole plot dimensions: 4.27 x 24.4.

Treatments: All combinations of:-

1. SPRAYER                      Sprayer and drop density:
  - CDA 1                      Controlled drop application sprayer, standard drop density
  - CDA 2                      Controlled drop application sprayer, twice standard drop density
  - HYDRAUL                      Hydraulic sprayer
2. TRI RATE                      Rates of applying tridemorph (on 12 June, 1980):
  - 1                              Standard, 525 g
  - 1/2                              Half standard, 263 g
  - 1/4                              Quarter standard, 132 g

plus two extra plots

EXTRA

- NONE                              Unsprayed
- CDA R 1                              Controlled drop application sprayer, reduced drop density, applying standard rate tridemorph

NOTES (1) CDA sprayer applied tridemorph in 19 l.

(2) Hydraulic sprayer applied tridemorph in 340 l.

Basal applications: Manures: (20:10:10) at 450 kg, combine drilled.

Weedkillers: Dicamba with mecoprop and MCPA (as 'Banlene Plus' at 5.0 l) in 250 l.

Seed: Wing, sown at 160 kg.

Cultivations, etc.: - Ploughed: 13 Nov, 1979. Spring-tine cultivated:

5 Apr, 1980. Seed sown: 6 Apr. Weedkillers applied: 25 May. Combine harvested: 1 Sept. Previous crops: S. beans 1978, w. wheat 1979.

NOTE: Observations were made on patterns of spray deposition using very small quantities of permethrin as a chemical marker. Mildew was assessed twice during the season.

80/R/B/9

GRAIN TONNES/HECTARE

\*\*\*\*\* TABLES OF MEANS \*\*\*\*\*

TRI RATE SPRAYER	1	1/2	1/4	MEAN
CDA 1	4.72	4.36	4.96	4.68
CDA 2	4.95	4.72	4.60	4.76
HYDRAUL	5.65	4.88	4.54	5.02
MEAN	5.11	4.65	4.70	4.82

EXTRA	NONE	CDA R 1	MEAN
	4.34	4.81	4.57

GRAND MEAN 4.77

\*\*\*\*\* STANDARD ERRORS OF DIFFERENCES OF MEANS \*\*\*\*\*

TABLE	EXTRA	SPRAYER	TRI RATE	SPRAYER TRI RATE & EXTRA
SED	0.304	0.175	0.175	0.304

\*\*\*\*\* STRATUM STANDARD ERRORS AND COEFFICIENTS OF VARIATION \*\*\*\*\*

STRATUM	DF	SE	CV%
BLOCK.WP	20	0.372	7.8

GRAIN MEAN DM% 84.4

PLOT AREA HARVESTED 0.00520